

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P903063

Luminaire Tested: DFN2DIP-PN3F0-070D030US830-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P903063
REPORT IS A COMBINATION OF REPORTS P901040 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-070D030US830-RLLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

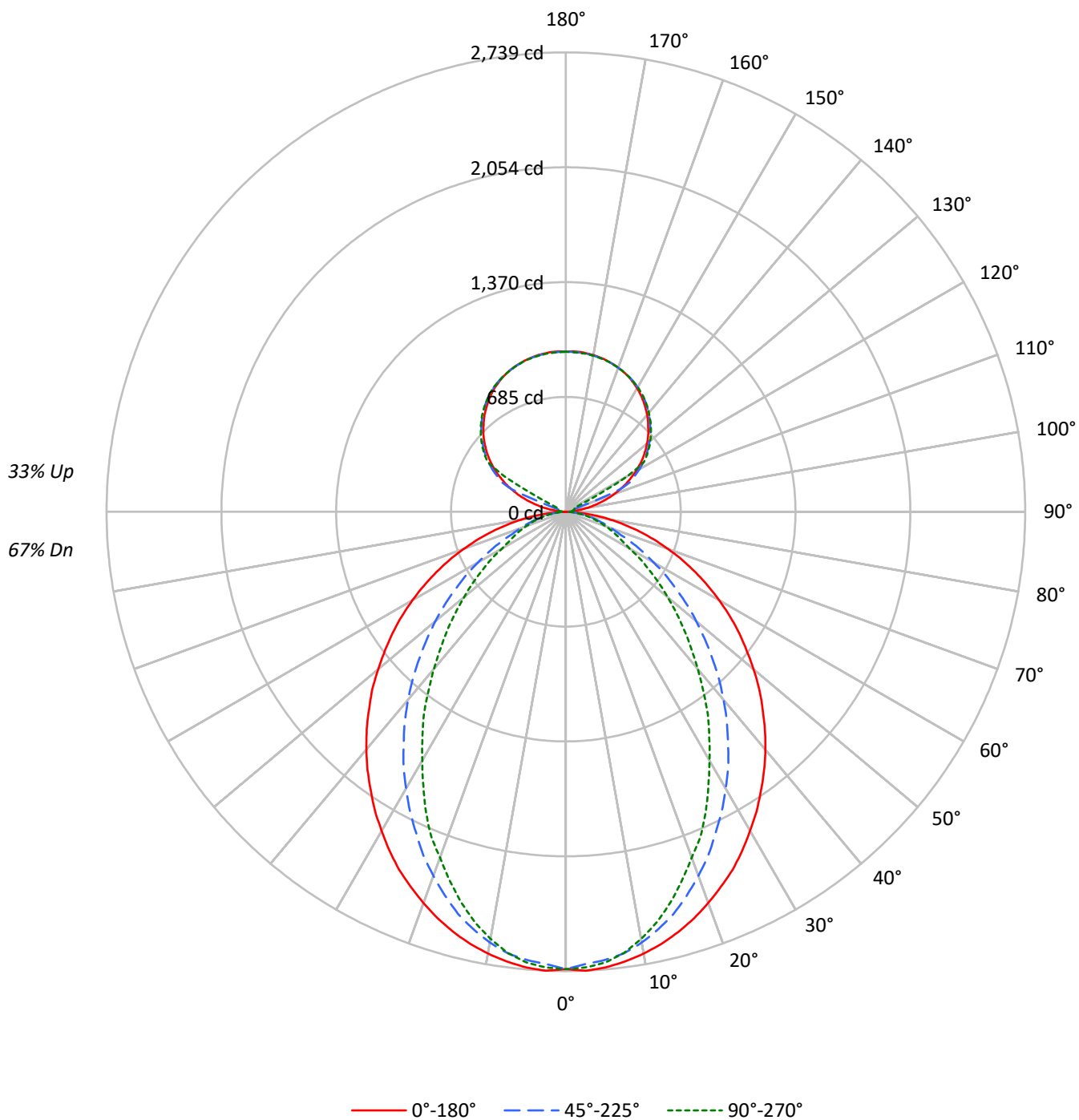
Lumens per Lamp: N/A
Luminaire Lumens: 8407.4 lumens
Efficiency: N/A
Efficacy: 90.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 92.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	111	111	111	111	105	105	105	105	93	93	93	82	82	82	71	71	71	69	69	69
1	102	98	94	91	96	93	89	86	82	80	78	73	71	69	64	63	62	61	60	58
2	94	86	80	75	88	82	76	72	73	69	65	65	62	59	57	55	53	51	49	49
3	86	77	69	64	81	72	66	61	65	60	56	58	54	51	51	48	46	44	42	42
4	79	68	60	54	74	65	58	52	58	53	48	52	48	44	46	43	40	37	37	37
5	73	61	53	47	68	58	51	45	52	47	42	47	42	39	42	38	35	33	33	33
6	67	55	47	41	63	53	45	40	48	42	37	43	38	34	38	35	31	29	29	29
7	62	50	42	37	59	48	41	36	43	37	33	39	34	31	35	31	28	26	26	26
8	58	46	38	33	55	44	37	32	40	34	30	36	31	28	33	29	26	23	23	23
9	54	42	35	30	51	40	33	29	37	31	27	33	29	25	30	26	23	21	21	21
10	51	39	32	27	48	37	31	26	34	28	24	31	26	23	28	24	21	19	19	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3188	3188	3188
5°	3191	3135	3156
10°	3157	3071	3052
15°	3112	2967	2892
20°	3053	2825	2696
25°	2992	2667	2507
30°	2911	2504	2267
35°	2831	2329	2057
40°	2750	2149	1816
45°	2656	1949	1598
50°	2559	1748	1385
55°	2457	1532	1181
60°	2339	1308	970
65°	2203	1080	872
70°	2038	867	787
75°	1831	759	713
80°	1531	630	614
85°	1040	409	453

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2656 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.6	3.0
10°-20°	701.6	8.3
20°-30°	985.0	11.7
30°-40°	1073.7	12.8
40°-50°	986.9	11.7
50°-60°	775.0	9.2
60°-70°	504.5	6.0
70°-80°	259.7	3.1
80°-90°	67.9	0.8
90°-100°	31.5	0.4
100°-110°	117.3	1.4
110°-120°	311.1	3.7
120°-130°	516.0	6.1
130°-140°	548.1	6.5
140°-150°	509.4	6.1
150°-160°	409.6	4.9
160°-170°	263.9	3.1
170°-180°	90.8	1.1
0°-30°	1942.1	23.1
0°-40°	3015.8	35.9
0°-60°	4777.7	56.8
0°-90°	5609.8	66.7
90°-120°	459.9	5.5
90°-150°	2033.4	24.2
90°-180°	2798.0	33.3
0°-180°	8407.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2727	2727	2727	2727	2727	
5°	2727	2714	2682	2705	2697	259
15°	2594	2566	2483	2436	2411	731
25°	2354	2275	2112	2011	1974	1083
35°	2028	1903	1686	1530	1476	1270
45°	1658	1493	1234	1059	999	1281
55°	1261	1068	802	654	607	1127
65°	851	651	429	346	338	844
75°	454	281	197	180	178	480
85°	106	54	47	47	47	122
90°	1	8	14	17	19	8
95°	45	22	27	30	30	53
105°	210	231	42	50	52	224
115°	397	409	426	106	57	391
125°	561	570	584	588	590	501
135°	695	706	712	719	718	537
145°	806	805	817	822	818	504
155°	887	881	889	894	888	409
165°	935	931	933	938	933	264
175°	956	952	953	958	951	91
180°	954	954	954	954	954	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2726.9	2726.9	2726.9	2726.9	2726.9
2.5°	2739.1	2726.9	2699.6	2724.5	2719.5
5°	2726.9	2714.5	2682.4	2704.6	2697.3
7.5°	2704.6	2689.9	2655.4	2665.0	2652.8
10°	2675.0	2657.8	2608.5	2600.9	2586.2
12.5°	2638.1	2615.8	2549.1	2534.4	2507.2
15°	2593.6	2566.4	2482.6	2435.7	2411.1
17.5°	2541.8	2502.3	2398.6	2344.3	2304.8
20°	2482.6	2433.1	2309.8	2248.2	2193.8
22.5°	2418.5	2361.6	2218.4	2134.6	2097.7
25°	2354.3	2275.2	2112.3	2011.3	1974.2
27.5°	2277.8	2193.8	2013.6	1897.7	1840.9
30°	2196.4	2102.4	1905.0	1779.3	1712.6
32.5°	2117.3	2003.8	1801.6	1653.4	1591.6
35°	2028.5	1902.6	1685.6	1530.1	1475.6
37.5°	1942.2	1806.3	1577.0	1406.5	1345.0
40°	1850.8	1702.9	1463.3	1288.2	1224.0
42.5°	1757.1	1599.2	1349.9	1167.2	1105.7
45°	1658.4	1492.9	1234.0	1058.6	999.4
47.5°	1564.6	1389.5	1122.9	947.5	893.3
50°	1460.9	1285.8	1014.3	843.9	792.3
52.5°	1359.6	1174.5	910.6	747.7	700.9
55°	1260.9	1068.5	801.9	654.0	607.2
57.5°	1159.9	962.4	705.9	567.6	528.1
60°	1056.2	858.8	604.5	478.9	439.3
62.5°	955.1	757.7	518.1	399.8	380.1
65°	851.4	651.4	429.4	345.6	338.0
67.5°	752.7	552.7	345.6	303.4	296.1
70°	649.0	456.6	286.2	261.6	251.6
72.5°	550.4	367.6	239.3	219.7	214.7
75°	454.0	281.2	197.4	180.1	177.8
77.5°	357.9	199.7	155.5	145.5	140.6
80°	268.9	143.2	118.4	108.7	108.7
82.5°	187.5	96.3	81.4	76.4	76.4
85°	106.0	54.2	46.8	46.8	46.8
87.5°	39.5	19.6	19.6	17.2	17.2
90°	0.7	8.3	13.8	17.3	18.6
92.5°	17.3	14.5	16.6	18.0	18.6
95°	44.9	22.1	26.9	30.4	29.7
97.5°	80.8	24.2	35.2	37.3	38.0
100°	122.2	27.6	39.4	44.9	46.3
102.5°	167.8	166.5	40.7	48.3	50.4
105°	209.9	230.6	42.1	49.7	52.5
107.5°	258.9	276.2	43.5	51.1	53.9
110°	305.9	320.4	120.8	51.8	54.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	350.2	362.5	350.8	53.2	55.2
115°	397.0	408.8	426.0	106.3	56.6
117.5°	437.8	451.6	463.4	364.6	183.7
120°	483.3	493.7	506.1	514.4	421.2
122.5°	522.0	533.1	547.0	551.0	551.8
125°	561.4	570.3	583.5	588.3	590.4
127.5°	597.3	606.9	617.4	624.2	624.9
130°	631.1	642.2	649.8	657.3	656.8
132.5°	665.6	674.7	682.2	688.4	687.8
135°	694.7	705.8	711.9	718.9	717.5
137.5°	725.0	733.3	740.3	747.2	745.1
140°	754.7	760.3	767.8	774.0	770.6
142.5°	779.7	784.5	793.4	798.9	795.5
145°	805.9	805.1	816.9	821.7	818.2
147.5°	828.6	826.5	838.3	841.7	839.0
150°	850.7	845.9	857.0	861.0	857.6
152.5°	869.3	863.8	874.2	878.4	873.5
155°	887.3	881.2	889.4	893.5	888.1
157.5°	901.8	896.4	902.6	907.4	901.8
160°	914.3	910.1	914.3	918.4	913.5
162.5°	925.3	921.1	924.6	929.4	923.2
165°	934.9	930.9	932.9	937.7	932.9
167.5°	942.5	938.4	940.5	945.4	939.1
170°	948.8	944.6	946.0	950.8	944.6
172.5°	952.9	948.8	950.2	955.0	948.8
175°	956.3	951.5	952.9	957.7	950.8
177.5°	957.7	952.9	953.7	958.5	952.3
180°	954.3	954.3	954.3	954.3	954.3

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	12.57	13.56	13.38	14.38	15.40	8.54	9.52	9.34	10.35	11.36
	3H	14.25	15.14	15.07	15.97	17.01	9.73	10.62	10.55	11.45	12.49
	4H	14.87	15.70	15.70	16.54	17.59	10.18	11.02	11.02	11.86	12.91
	6H	15.29	16.06	16.14	16.91	17.97	10.51	11.28	11.36	12.12	13.19
	8H	15.42	16.15	16.28	17.02	18.08	10.60	11.33	11.46	12.20	13.26
	12H	15.48	16.18	16.35	17.04	18.13	10.65	11.34	11.51	12.20	13.29
4H	2H	12.61	13.44	13.45	14.28	15.33	9.15	9.98	9.99	10.82	11.88
	3H	14.44	15.14	15.30	16.01	17.08	10.51	11.20	11.36	12.07	13.14
	4H	15.14	15.77	16.00	16.64	17.73	11.05	11.68	11.92	12.56	13.65
	6H	15.65	16.20	16.53	17.09	18.19	11.48	12.02	12.36	12.91	14.01
	8H	15.83	16.34	16.71	17.23	18.34	11.60	12.11	12.49	13.00	14.11
	12H	15.93	16.38	16.83	17.29	18.41	11.67	12.13	12.58	13.04	14.16
8H	4H	15.11	15.62	16.00	16.51	17.62	11.34	11.85	12.23	12.74	13.85
	6H	15.68	16.10	16.59	17.03	18.14	11.86	12.28	12.77	13.21	14.32
	8H	15.89	16.26	16.81	17.19	18.32	12.05	12.42	12.97	13.34	14.47
	12H	16.03	16.36	16.96	17.28	18.46	12.17	12.49	13.09	13.41	14.59
12H	4H	15.07	15.53	15.98	16.44	17.56	11.35	11.81	12.26	12.72	13.84
	6H	15.65	16.03	16.58	16.95	18.08	11.91	12.28	12.83	13.20	14.33
	8H	15.88	16.20	16.80	17.12	18.30	12.12	12.45	13.04	13.36	14.54